WHAT IS CLAIMED IS:

1. A filter comprising:

an analyzer for generating a low-frequency component signal and a high-frequency component signal from an input signal;

a thresholding circuit for generating a processed high-frequency signal from said high-frequency component signal, said processed high-frequency signal having an amplitude of zero in those regions in which said high-frequency component signal has an amplitude that is less than a threshold value; and

a synthesizer for generating a filtered signal from inputs comprising said low-frequency component signal and said processed high-frequency signal, said filtered signal being identical to said input signal if said threshold value is zero.

2. The filter of Claim 1 wherein said analyzer comprises a plurality of finite impulse response filters.

3. The filter of Claim 1 further comprising an input signal converter for generating said input signal from a measured signal by performing a mathematical transformation on said measured signal; and an inverse converter for applying the inverse mathematical transformation to said filtered signal to generate an output signal.

4. The filter of Claim 3 wherein said input signal converter generates a signal having an amplitude determined by the logarithm of said input signal.

5. The filter of Claim 3 wherein said input signal converter generates a signal having an amplitude determined by the square of said input signal.

6. The filter of Claim 1 wherein said threshold value depends on the amplitude of said low-frequency signal.

7. A filter comprising first and second thresholding filters operating in series on a filter input signal to provide a filtered output signal, said first thresholding filter comprising:

a first analyzer for generating a first low-frequency component signal and a first high-frequency component signal from a first input signal;

a first thresholding circuit for generating a first processed high-frequency signal from said first high-frequency component signal, said first processed high-frequency signal having an amplitude of zero in those regions in which said first high-frequency component signal has an amplitude that is less than a first threshold value; and

a first synthesizer for generating a first output signal from inputs comprising said first low-frequency component signal and said first processed high-frequency signal, said first output signal being identical to said first input signal if said threshold value is zero; and

said second thresholding filter comprising:

an input signal converter for generating an intermediate input signal from a second input signal by performing a mathematical transformation on said second input signal;

a second analyzer for generating a second low-frequency component signal and a second high-frequency component signal from said intermediate input signal;

a second thresholding circuit for generating a second processed high-frequency signal from said second high-frequency component signal, said second processed high-frequency signal having an amplitude of zero in those regions in which said second high-frequency component signal has an amplitude that is less than a second threshold value;

a second synthesizer for generating an intermediate output signal from inputs comprising said second low-frequency component signal and said second processed high-frequency signal, said intermediate output signal being identical to said intermediate input signal if said second threshold value is zero; and

an inverse converter for applying the inverse mathematical transformation to said intermediate output signal to generate a second output signal, wherein

said first input signal is either said filter input signal or said second output signal and said second input signal is the other of said filter input signal and said second output signal.

8. The filter of Claim 7 wherein said mathematical transformation comprises taking the logarithm of said second input signal.

9. A filter comprising first and second thresholding filters, each of said first and second thresholding filters comprising:

an analyzer for generating a low-frequency component signal and a high-frequency component signal from an input signal;

a thresholding circuit for generating a processed high-frequency signal from said high-frequency component signal, said processed high-frequency signal having an amplitude of zero in those regions in which said high-frequency component signal has an amplitude that is less than a threshold value; and

a synthesizer for generating a filtered signal from inputs comprising said low-frequency component signal and said processed high-frequency signal, said filtered signal being identical to said input signal if said threshold value is zero, wherein

said filtered signal generated by said first thresholding filter provides said input signal of said second thresholding filter, and wherein said first thresholding filter transforms said input signal input thereto in a manner that is different from the manner in which said second thresholding filter transforms said input signal input thereto.

10. The filter of Claim 9 wherein said analyzer in one of said first and second thresholding filters comprises a plurality of finite impulse response filters.

11. The filter of Claim 9 further comprising an input signal converter for generating said input signal to one of said first and second thresholding filters from a measured signal by performing a mathematical transformation on said measured signal; and an inverse converter for applying the inverse mathematical transformation to said filtered signal generated by that one of said thresholding filter.

12. The filter of Claim 11 wherein said input signal converter generates a signal having an amplitude determined by the logarithm of said input signal.

13. The filter of Claim 11 wherein said input signal converter generates a signal having an amplitude determined by the square of said input signal.

14. The filter of Claim 9 wherein said threshold value depends on the amplitude of said low-frequency signal generated by said one of said thresholding filters.